Instructor Information
Dr. Andrew J. Siefker
Office: MCS 219B
Phone: 486 - 5440 (office)
Email: andrew.siefker@angelo.edu
Office Hours: M: 10:00 – 11:00 a.m. 1:30 – 4:30 p.m.
T: 9:30 – 11:30 a.m.
W: 1:30 – 2:30 p.m.
Th: 9:30 – 11:30 a.m.
F: 1:30 – 2:30 p.m.
or by appointment.

Major Course Requirements
Prereqs: Mathematics 3335.
Grading: • Exams .............................. 3 Exams: 30% each
• Homework and Quizzes .... 10%.
• Final ................................. 0%; 12-9-2021 (Thurs); 10:30 am.

Final ≥ 90% - up 1 letter grade; Final < 60% - down 1 letter grade.

Note: I reserve the right to adjust the grading scheme and grading scale for an individual or the class as warranted. Please note that ASU’s interpretation of federal law (Buckley amendment) prohibits me from relaying your grades via phone or email.

Need a Math Tutor?
Students can login to Upswing to receive online help.

Attendance:
Attendance will be taken but does not count towards your final grade except in borderline cases.

November 22, 2021: LAST DAY TO DROP A CLASS OR WITHDRAW FROM ASU

Disclaimer:
This syllabus is current and accurate as of its posting date, but will not be updated. For the most complete and up-to-date course information, contact the instructor. Also,
the subject matter schedule listed below is tentative, and subject to change and adaptation. For current, updated information about course topics, contact the instructor.

**Course Policies:**

**Homework and Quizzes:**
Homework is regularly collected and quizzes may be administered. When collected, homework is due when the instructor requests it. Late homework is not accepted for points and receives a grade of ZERO. When given, quizzes count as a homework score and NO MAKE-UP QUIZZES will be given. You must show complete solutions (i.e. all steps and calculations) and write LEGIBLY to receive credit for any problem.

Homework turned in for a grade must follow a specific template. (1) Write the problems in numerical order, in a single column, using only one side of a sheet of paper. (2) Staple multiple sheets of paper together in the upper, left-hand corner. Be certain the problems are in numerical order. (3) Fold your homework longwise so that it opens like a book. Write your name, the course (e.g. Math 2414) and course time (e.g. 8 am), and the homework section number.

**Examinations:**
You must show complete solutions (i.e. all steps and calculations) and write LEGIBLY to receive credit for any “essay” problem. Scrap paper will be provided upon request; you may not use your own. If you miss or will miss an exam, contact the instructor ASAP. NO MAKE-UP EXAMS will be administered, and the use of calculators is at the discretion of the professor.

**Grades:**
All grades become final one week after the grade is recorded. Therefore, any questions you may have regarding a grade must be resolved before this one week deadline.

**Class Etiquette:**
Please be courteous of others in the class including: not utilizing cell phones, silencing cell phones, not habitually arriving late, not leaving during lectures (unless you notify me beforehand), not engaging in non-math related conversations or activities, etc.

**Information About COVID-19**
Please refer to ASU’s [COVID-19 (Coronavirus) Updates](https://www.asu.edu/coronavirus) web page for current information about campus guidelines and safety standards as they relate to the COVID-19 pandemic.
Student Disability Services

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student’s responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the Student Disability Services website. The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dr. Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112

Title IX

Angelo State University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from sex discrimination of any kind. In accordance with Title VII, Title IX, the Violence Against Women Act (VAWA), the Campus Sexual Violence Elimination Act (SaVE), and other federal and state laws, the University prohibits discrimination based on sex, which includes pregnancy, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination and unwelcome behavior of a sexual nature. The term includes sexual harassment, nonconsensual sexual contact, nonconsensual sexual intercourse, sexual assault, sexual exploitation, stalking, public indecency, interpersonal violence (domestic violence or dating violence), sexual violence, and any other misconduct based on sex.

You are encouraged to report any incidents involving sexual misconduct to the Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator, Michelle Miller, J.D. You may submit reports in the following manner:

Online: Incident Reporting Form
Face to Face: Mayer Administration Building, Room 210
Phone: 325-942-2022
Email: michelle.miller@angelo.edu

Note, as a faculty member at Angelo State, I am a mandatory reporter and must report incidents involving sexual misconduct to the Title IX Coordinator. Should you wish to speak to someone in confidence about an issue, you may contact the University Counseling Center (325-942-2371), the 24-Hour Crisis Helpline (325-486-6345), or the University Health Clinic (325-942-2171).

For more information about resources related to sexual misconduct, Title IX, or Angelo State’s policy please visit the Title IX website.
Student Absence for Observance of Religious Holy Days
A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for Observance of Religious Holy Day for more information.

Incomplete Grade Policy
It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 Grading Procedures for more information.

Academic Integrity
Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university’s Statement of Academic Integrity.

Plagiarism
Plagiarism is a serious topic covered in ASU’s Academic Integrity policy in the Student Handbook. Plagiarism is the action or practice of taking someone else’s work, idea, etc., and passing it off as one’s own. Plagiarism is literary theft.

In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list.

Papers are subject to be evaluated for originality via Turnitin. Resources to help you understand this policy better are available at the ASU Writing Center.

Copyright Policy
Students officially enrolled in this course should make only one printed copy of the given articles and/or chapters. You are expressly prohibited from distributing or reproducing any portion of course readings in printed or electronic form without written permission from the copyright holders or publishers.

General Policies Related to this Course:
All students are required to follow the policies and procedures presented in these documents:

- Angelo State University Student Handbook
- Angelo State University Catalog
Student Learning Outcomes

1. **Students will demonstrate factual knowledge of mathematical notation and terminology used in this course.** Students will demonstrate the ability to read, interpret, and use the vocabulary, symbolism, and basic definitions that arise in the study of partial differential equations.

2. **Students will be able to describe the fundamental principles involved in the study of partial differential equations.** Students will demonstrate familiarity with the derivation and interpretation of the wave equation, the heat equation, and the Laplace equation and the analysis of the solutions of these equations.

3. **Students will develop specific skills, competencies, and thought processes sufficient to support further work in this or related fields.** Students will acquire a level of proficiency in the concepts and applications necessary for work in occupational fields requiring a background in partial differential equations. These fields might include engineering, the physical and natural sciences as well as mathematics.

4. **Students will be able to apply techniques and procedures covered in this course to solve problems.** Students will be able to analyze differential equation models in fields such as physics, biology, and engineering, and students will use the method of characteristics, Fourier series, Sturm-Liouville techniques, and separation of variables as to solve partial differential equations.
Course Content

Content consists of the following topics, listed according to topic and not by chapters in the text.

2. **The Method of Characteristics**: First-Order Linear Equations, First-Order Quasilinear, The One-Dimensional Wave Equation.
3. **Change of Coordinates**
4. **D’Alembert’s Solution**: Wave Equation.
6. **Fourier Series**: The Full Fourier Series, Fourier Sine and Cosine Series, Convergence and Differentiation.
Required Texts or Readings:
There is no required textbook for this course; however, homework problems from the book will be assigned.

Subject Matter Schedule
The subject matter schedule listed below is tentative, and subject to change and adaptation. For current, updated information about course topics, contact the instructor.

Week # Topic to Cover

2. Change of Coordinates
   D’Alembert’s Solution: Wave Equation.
4. The Method of Separation of Variables:
6. Fourier Series & The Fourier Transformations
7. The Fourier Transformations
10. Sturm-Liouville Problems:
12. The Method of Eigenfunction Expansion